Creating a Branch Status Review

Presented by: Sally Godfrey

Software Process Improvement (SPI) Project

Purpose and Objectives

- **Purpose: Describe the recommended contents of a BSR**
- **Objective - After this session you should have learned:**
  - **Why BSRs should be done for each project Team**
  - **What goes into a "compliant" BSR**
  - **What the SPI template for a BSR looks like**
  - **How to use the BSR template**
  - **What information you should be keeping from every BSR**

Status Reviews Are a NASA Requirement

NPR 7150.2, SWE-018: A project "*shall regularly hold reviews of software activities, status, and results with the project stakeholders and track issues to resolution*".

- This includes formal "end-of-phase" reviews and regular status reviews to management
- Status reviews to management are recommended monthly via Branch Status Reviews (BSRs)
- Recommended topics include the following:
  - Activities and Accomplishments
  - Schedules and Progress
  - Measurements
  - Risks
  - Issues

Status Reviews Are Also a CMMI Requirement

NPR 7150.2, SWE-032: A project "… *shall ensure that software is developed by … an organization that has a CMMI®-SE/SW Capability Level 2 or higher*".

- **Per the NPR, all projects developing Class B Software must comply with CMMI Level 2**
- **Status reporting requirements for projects at CMMI Level 2 include process related topics as well as technical topics**

- **THE GOOD NEWS … it isn't hard to meet the requirements if you use the SPI template at**

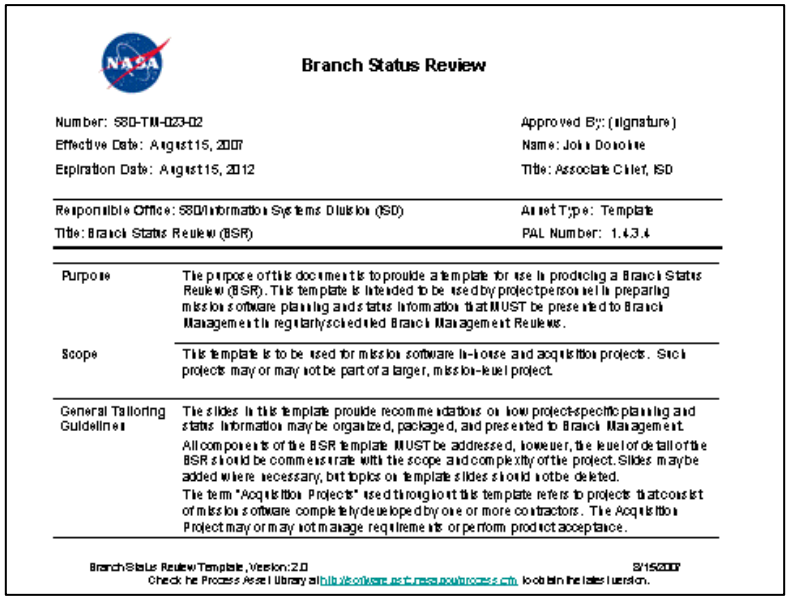
http://software.gsfc.nasa.gov/AssetsApproved/PA1.4.3.4.ppt

What's Required in Branch Status Reviews?

- **BSRs must include:**
  - Assessment of activity status *against plans*
  - Review of *project measures* like earned value and point counting
  - Review of *project risks*, highlighting changes in risk status and implementation of mitigation plans
  - Indication of changes in key planning parameters including *schedule and cost*
  - Assessment of any *issues* affecting project
  - Reporting of process activities (*activities, status, and results*)
- **Minutes and Action Items must be recorded**
  - BSR meeting *attendance* must be recorded and *minutes* be taken
  - *Action items* and *issues* developed during BSRs must be documented and … *tracked to closure*

What Does the Template Look Like?

- **The first slides are formatted like other assets**



Branch Status Review

Number: S80-TM-023-02
Effective Date: August 15, 2007
Expiration Date: August 15, 2012

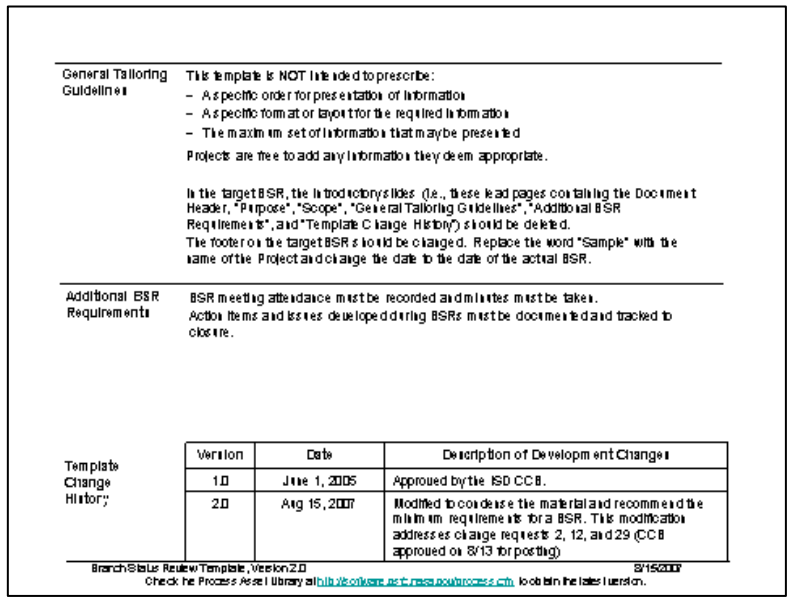
Approved By: (signature)
Name: John Donohue
Title: Associate Chief, ISD

Responsible Office: 580/Information Systems Division (ISD)
Title: Branch Status Review (BSR)

Asset Type: Template
PAL Number: 1.4.3.4

Purpose	The purpose of this document is to provide a template for use in producing a Branch Status Review (BSR). This template is intended to be used by project personnel in preparing mission software planning and status information that MUST be presented to Branch Management in regularly scheduled Branch Management Reviews.
Scope	This template is to be used for mission software in-house and acquisition projects. Such projects may or may not be part of a larger, mission-level project.
General Tailoring Guidelines	The slides in this template provide recommendations on how project-specific planning and status information may be organized, packaged, and presented to Branch Management. All components of the BSR template MUST be addressed, however, the level of detail of the BSR should be commensurate with the scope and complexity of the project. Slides may be added where necessary, but topics on template slides should not be deleted. The term "Acquisition Projects" used throughout this template refers to projects that consist of mission software completely developed by one or more contractors. The Acquisition Project may or may not manage requirements or perform product acceptance.

Branch Status Review Template, Version: 2.0 — 8/15/2007
Check the Process Asset Library at http://software.gsfc.nasa.gov/process.cfm to obtain the latest version.



General Tailoring Guidelines	This template is NOT intended to prescribe: – A specific order for presentation of information – A specific format or layout for the required information – The maximum set of information that may be presented Projects are free to add any information they deem appropriate. In the target BSR, the introductory slides (i.e., these lead pages containing the Document Header, "Purpose", "Scope", "General Tailoring Guidelines", "Additional BSR Requirements", and "Template Change History") should be deleted. The footer on the target BSR should be changed. Replace the word "Sample" with the name of the Project and change the date to the date of the actual BSR.
Additional BSR Requirements	BSR meeting attendance must be recorded and minutes must be taken. Action items and issues developed during BSRs must be documented and tracked to closure.

Template Change History:

Version	Date	Description of Development Changes
1.0	June 1, 2005	Approved by the ISD CCB.
2.0	Aug 15, 2007	Modified to condense the material and recommend the minimum requirements for a BSR. This modification addresses change requests 2, 12, and 29 (CCB approved on 8/13 for posting)

Branch Status Review Template, Version: 2.0 — 8/15/2007
Check the Process Asset Library at http://software.gsfc.nasa.gov/process.cfm to obtain the latest version.

- **The remaining slides include instructions and examples of what the BSR slide would look like …**

Title

Example Slide GSFC

<Project> Status

Activities and Accomplishments
Schedules and Progress
Measurements
Risks
Issues
Monitoring

These are the topics covered in the BSR template

<Month/Year>

<Preparer>

Activities and Accomplishments

Instructions

GSFC

- **Prepare one or more slides that describe your project's activities and accomplishments**
- **Minimum Requirements:**
  - **State your project's activities and work product status against planned schedule. Include:**
    - **Technical, management, and process activities**
    - **Status and results of the activities**
    - **Issues or deviations from plan**
    - **Results of milestone reviews (e.g., SRR, PDR, CDR)**
    - **As appropriate, involvement of other groups/personnel (i.e., "stakeholders") in achieving completion of the activity/accomplishment**
  - **State your project's planned activities for next reporting period**
- **Preferred method of presentation:**
  - **Consider organizing this slide under a high level breakout that is appropriate for your project – for example: Project phases (e.g., development / test / operations); Major systems or subsystems; Project Teams (e.g., engineers / developers / testers)**

Activities and Accomplishments: Reporting Process Activities (1 of 3)

Instructions

GSFC

For the reporting period, address process activities / milestones you worked on, such as those listed below.

Project Planning
WBS Defined
Project costs estimated
Project schedules defined
Project Life cycle selected and documented
Initial risks identified
Data management planned
Training planned
Stakeholder involvement planned
Product plan written, signed, reviewed

Project Monitoring and Control
Completed milestones for deliverables
Review and update of risks
Review of budget, effort, schedule
Verify stakeholder involvement
Conduct progress reviews
Conduct milestone reviews
Review of action items, issues
Analysis of issues
Closure of issues

Configuration Management
Configuration items identified
Configuration tool in place
CM plan complete
CCB established
CCB meetings
Configuration audits
CM managed items baselined

Requirements Management
Meetings with customer to understand requirements
Requirements document approved
Bi-direction Traceability matrix complete
Requirements changes analyzed and controlled

Measurement and Analysis
Measurement objectives established
Measurement set established
Measurement tools and repository in place
Collection and analysis procedures defined
Regularly scheduled metrics collections
Measurements analyzed
Measurement results reported

Process and Product QA
Meet with Code 300 to plan assurance
Software assurance plan reviewed
Assurance audits for product scheduled
Assurance audits for process scheduled
Meetings to discuss audit findings
Responses to audit action items

Supplier Agreement Management
Work with procurement to plan acquisition
Completed RFP, SOW and evaluation criteria
Signed contract/task in place
Regular status activities with contractor
Acceptance of products from contractor
Products transitioned into use

Risk Management
Risk management strategy established
Risk parameters determined
Risks identified, categorized and analyzed
Risks monitored regularly
Necessary risk mitigation plans established
Risk mitigations initiated, if necessary

Activities and Accomplishments: Reporting Process Activities (2 of 3)

Instructions

GSFC

For the reporting period, address process activities / milestones you worked on, such as those listed below.

Requirements Development
Stakeholder/customer needs collected
Requirements developed, documented
Lower level requirements developed
Requirements alocated to components
Interface requirements identified
Operational concepts and scenarios established
Definition of required functionality established
Requirements analyzed
Requirements validated

Implementation (Technical Solution)
Alternate solutions/criteria for selection developed
Solutions selected
Make, or buy decision made; reuse analysis done
Design developed, documented, reviewed
Interfaces designed, ICD's complete
Code reviews/inspections complete
Implementation of build, release completed
Product documentation developed (user guide, etc)

Verification and Validation
Products selected for verification/validation
Environment for verificatioin/validation established
Procedures & criteria for V&V established
Inspections planned, conducted
Inspection results analyzed
Verification or validation performed
Results of verification or validation analyzed

Integrated Project Management
Organizational assets used for process
Project's work environment established
Project plan integrated as necessary
Project managed according to integrated plan
Assets given to organizational repository (PAL)
Stakeholder involvement managed
Dependencies managed
Coordination issues resolved

Implementation (Product Integration)
Integration environment established
Integration procedures and criteria established
ICDs reviewed for completeness
Interface changes managed
Readiness for integration confirmed
Components integrated
Successful integration verified
Product delivery to testing

Decision Analysis Resolution
Decision Analysis guidelines established
Evaluation criteria for decision established
Alternate solutions developed
Evalution methods selected
Alternatives evaluated
Solution selected

Activities and Accomplishments: Reporting Process Activities (3 of 3)

Instructions

GSFC

- **CMMI requires that you report on process activities performed and status for each NPR-identified process area:**
  - Planning
  - Monitoring and Controlling
  - Requirements Management
  - Risk Management
  - Supplier Agreement Management
  - Measurement and Analysis
  - Configuration Management
  - Process and Product Quality Assurance

For Every Process Area as Appropriate
Policy identified and in use
Planning for process area completed
Responsibility for process area assigned
Resources for process area identified and acquired
Training for process area completed
Stakeholders identified and involved
Process area data identified/managed
Process area activities monitored/measured
Process area audit conducted
Process area activities reported

Activities and Accomplishments (Development Project Example)

Example Slide

GSFC

- **Management**
  - Established the CM approach and obtained approval from Branch Management one week later than planned
  - Prepared CM plan draft and distributed it for review by the development, test, and customer teams as scheduled
  - Expected commitment on funding for FY07 was not received May 1st as planned
  - Plans for next month:
    - Obtain commitment on funding for FY07
    - Deliver and obtain comments on Project Management Plan Review version
- **Development**
  - Started Build 1 one week later than planned because security checks on the development lab took longer than anticipated
  - …..
  - Plans for next month:
    - Complete operating system configuration in development lab

Activities and Accomplishments (Acquisition Project Example)

Example Slide

GSFC

- **Contract Administration**
  - Drafted the SOW for the contract mod as scheduled. This mod will extend the contract to September 30, 2008.
  - Started draft of the surveillance plan as scheduled.
  - Plans for next month:
    - Submit completed package to the CO
- **Monitoring**
  - Reviewed the delivered Build 1 Test Plan as scheduled.
  - Held a status review with the XYZ contractor 2 weeks later than planned to accommodate vacation schedules.
  - Plans for next month:
    - Conduct CM Audit of government documentation
- **Contractor XYZ**
  - Started Build 1 one week later than planned because security checks on the development lab took longer than anticipated
  - …..
  - Plans for next month:
    - Complete operating system configuration in development lab

Schedule

Instructions

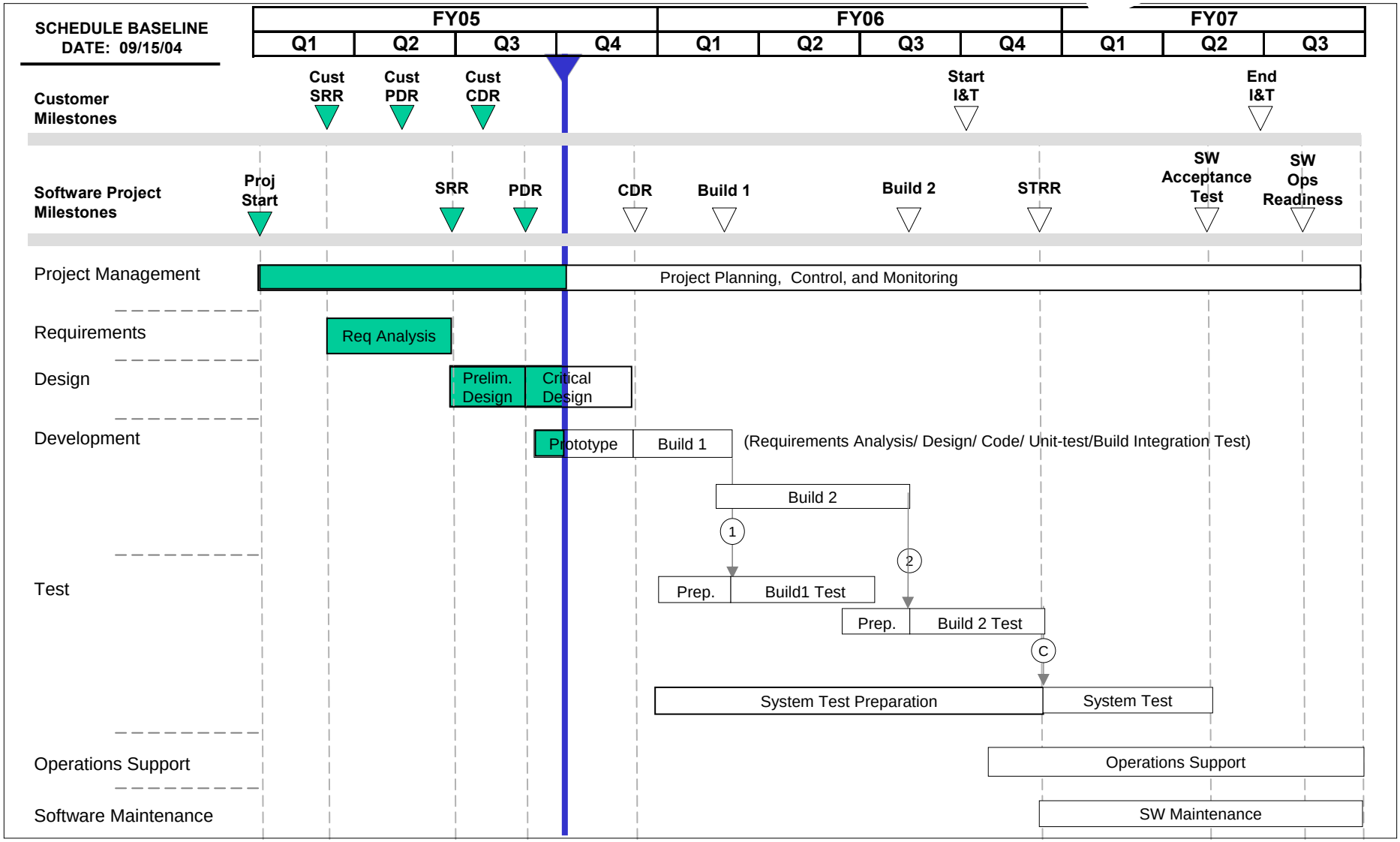
GSFC

- **Prepare one or more slides that show your project's schedule AND your project's progress against that schedule**
  - **Milestones complete against plan**
  - **Progress Tracking points planned vs actual**
- **Minimum Requirements:**
  - **Slide must address your project's schedule AND progress against that schedule**
  - **Schedule must include, at a minimum, major activities and major milestones to be met for each activity**
  - **Schedule must include management, technical, and process activities**
- **Preferred method of presentation:**
  - **Best to show one chart with complete multi-year schedule and a second more detailed chart with shorter period (12-18 months)**
  - **Any schedule format that can demonstrate both planned activities AND progress against those activities**

Project Schedule Overview

Example Slide

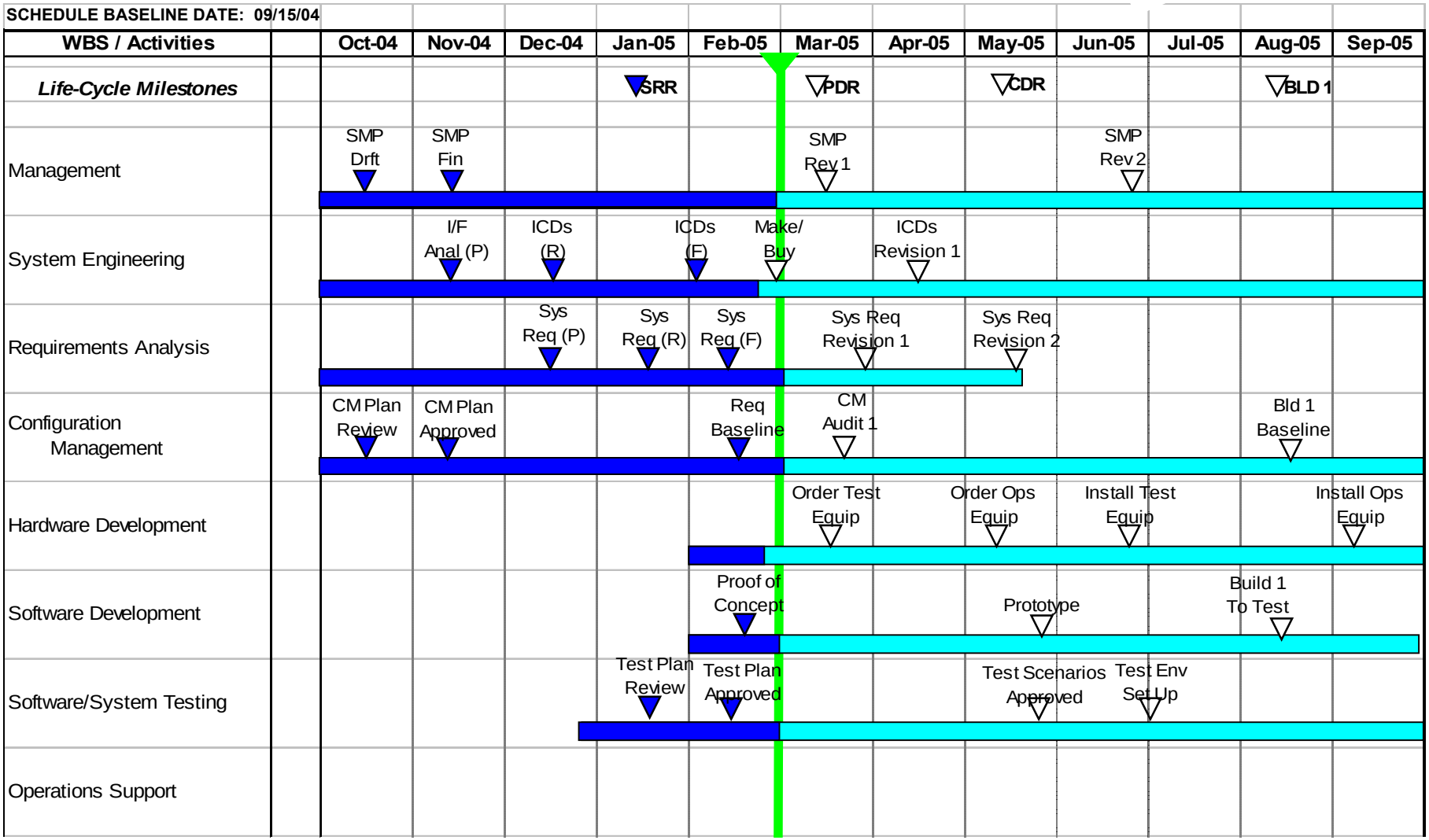
GSFC



Project Detailed Status

Example Slide

GSFC



Measurement Summary

Instructions

GSFC

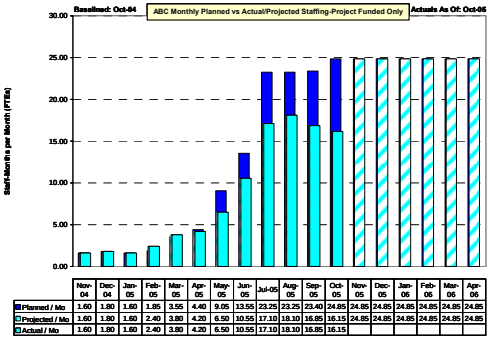
- Prepare one or more slides that address project measures
- Minimum Requirements:
  - Select measurement summary slides based on phase of project Potentials:
    - Any phase: staffing summary, process effort charts, audit results
    - Early: requirement volatility, review action status, inspection summary
    - Implementation: point counting, change requests
    - Testing: point counting, problem reports, change requests
    - Delivery: functionality
  - Include analysis, impact, and corrective actions with each measure
- Preferred method of presentation:
  - Charts or graphs are preferred, with words to show an analysis of the metrics (i.e., describe the essence of what the chart is showing), impacts or potential impacts on the project, corrective actions taken or planned to be taken

Measurement Summary Slides (Any Phase)

Example Slides

GSFC

Monthly Staffing Chart

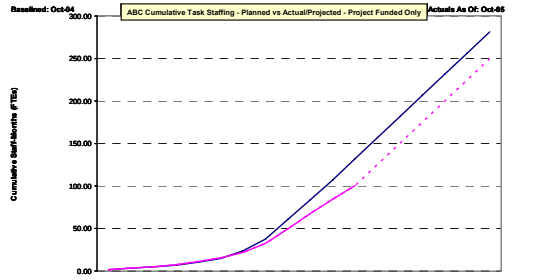


	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06
Planned / Mo	1.60	1.80	1.60	1.85	3.55	4.40	9.05	13.55	23.25	23.25	23.40	24.85	24.85	24.85	24.85	24.85	24.85	24.85
Projected / Mo	1.60	1.80	1.60	2.40	3.80	4.20	6.50	10.55	17.10	18.10	16.85	16.15	24.85	24.85	24.85	24.85	24.85	24.85
Actual / Mo	1.60	1.80	1.60	2.40	3.80	4.20	6.50	10.55	17.10	18.10	16.85	16.15						

Analysis: Personnel did not become available as planned this month
Impact: Some planned capabilities for Build 1 will have to be moved to later builds
Corrective Action: Meet with mgmt to resolve the staffing issue ASAP; replan staffing based on results of the meeting.

Samples: Staffing Summaries

18-Month Staffing Chart



	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06
Planned / Mo	1.60	3.40	5.00	6.85	10.40	14.80	23.85	37.40	60.65	83.90	107.3	132.1	157.0	181.8	206.7	231.5	256.4	281.2
Projected / Mo	1.60	3.40	5.00	7.40	11.20	15.40	21.90	32.45	49.55	67.65	84.50	100.6	125.5	150.3	175.2	200.0	224.9	249.7
Actual / Mo	1.60	3.40	5.00	7.40	11.20	15.40	21.90	32.45	49.55	67.65	84.50	100.6						

Analysis: Unanticipated personnel changes and unavailable replacements caused a later than planned staff-up
Impact: Build content changes temporarily solved this problem, but long term schedule will likely be impacted
Corrective Action: Meet with management to resolve the staffing issue ASAP; replan staffing and/or schedule based on results of the meeting

Process Effort

Monthly Effort by Process Area — **Actuals As Of: Dec-06**

Process Area	Planned Effort	Actual Effort	Variance	% Var.	Analysis	Corrective Plan
Management *Project Planning* *Project Monitoring and Control* *Measurement & Analysis* *Risk Management* *Acquisition Management*	3.05	2.50	0.55	18%	Management effort met the plan; all activities completed according to plan.	No corrective action needed.
Configuration Management	1.00	0.54	0.46	46%	No major CM actions/deliveries this month.	No corrective action needed.
Process and Product QA	0.10	0.10	0.00	0%	Staff was sufficient this month to provide required support.	No corrective action needed.
Engineering *Systems Engineering* *Dev & Test Environment Eng* *Requirements Development* *Requirements Management*	1.40	0.95	0.45	32%	Most staff took vacation the last week of the December	No corrective action needed.
Development	10.95	8.46	2.49	23%	Most staff took vacation the last week of the December	No corrective action needed.
Verification and Validation	9.65	8.44	1.21	13%	Most staff took vacation the last week of the December	No corrective action needed.

Sample: Process Effort

Sample: Audit Results

Audit Findings and Corrective Actions

Sample Project Audit Findings and Corrective Actions — **Report Date: 06/04/07**

Total Findings Open: 1
Total Findings Closed: 3

Rec #	Audit Date	Process or Product Audit	Finding Description	Corrective Action (CA) Description	Assignee	Planned CA Due Date	Re-Assessment Date	Date Closed	Status
1	01/13/06	CM Plan	The CM Plan did not follow the designated template. Several sections (e.g., configuration audits, status accounting) were omitted	Revise the current CM Plan to adhere to ISO's template and include all required information	John Doe	04/05/06	04/06/06	04/06/06	MM/DD/YY: Status to date
2	05/05/06	SMP	No Findings						
3	06/01/06	RSMK Process	Risks have not been updated or monitored for 5 months. The Risk Management Plan (RMP) states that risks will be statused on a monthly basis	Risk Meetings need to resume on a monthly basis to monitor and status open risks	Jane Doe	07/01/06	08/05/06	08/05/06	08/05/06: Risk meetings were conducted for July and August and the risks have been statused appropriately 07/15/06: A Risk meeting was conducted on July 7th. Note: Consecutive meetings need to occur before this finding can be closed
4	06/01/06	RSKM Process	The project is not using the required 5x5 risk matrix (per the RMP)	Convert the current 3x3 matrix to a 5x5	Jane Doe	07/01/06	07/07/06	07/07/06	07/07/06: The matrix was successfully converted to the standard 5x5 risk cube
5	06/07/06	VDD	The VDD for Release 2.0 did not include all required information per the template	Update the VDD to include the list of Workarounds.	Jane Doe	06/12/06			08/13/06: Release 2.0 has been postponed until September 1st to include a new Severity 1 SPR. 07/01/06: Release 2.0 was held up and will be redelivered 08/10

A Note About the Process Effort Slide

- This slide is REQUIRED if you are working on Class B software!
- Why? Because you must be CMMI Level 2 compliant, which means collecting "process metrics", like planned versus actual effort

Process Effort

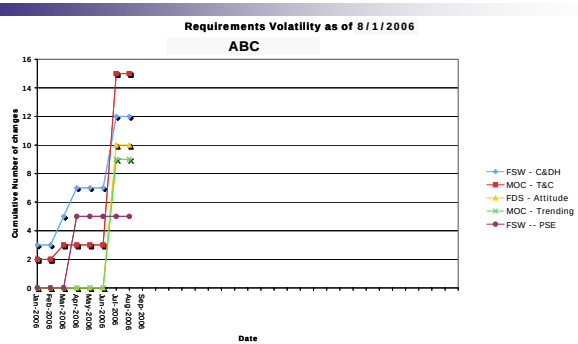
Monthly Effort by Process Area						Actuals As Of: Dec-06
Process Area	**Planned Effort**	**Actual Effort**	**Variance**	**% Var.**	**Analysis**	**Corrective Plan**
Management *Project Planning* *Project Monitoring and Control* *Measurement & Analysis* *Risk Management* *Acquisition Management*	3.05	2.50	0.55	18%	Management effort met the plan; all activities completed according to plan.	No corrective action needed.
Configuration Management	1.00	0.54	0.46	46%	No major CM actions/deliveries this month.	No corrective action needed.
Process and Product QA	0.10	0.10	0.00	0%	Staff was sufficient this month to provide required support.	No corrective action needed.
Engineering *Systems Engineering* *Dev & Test Environment Eng* *Requirements Development* *Requirements Management*	1.40	0.95	0.45	32%	Most staff took vacation the last week of the December	No corrective action needed.
Development	10.95	8.46	2.49	23%	Most staff took vacation the last week of the December	No corrective action needed.
Verification and Validation	9.65	8.44	1.21	13%	Most staff took vacation the last week of the December	No corrective action needed.

Measurement Summary Slides (Early Phases)

Example Slides

GSFC

Requirements Volatility

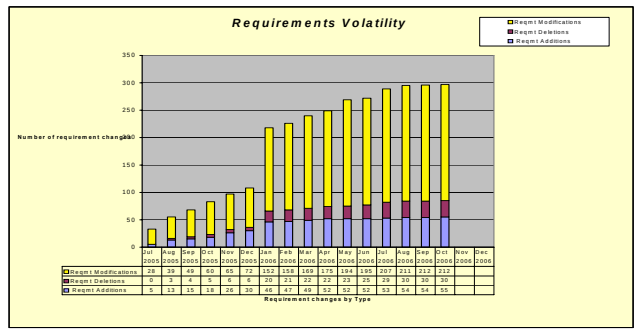


Analysis: The resolution of MOC T &C TBDs required additions to MOC requirements and many modifications throughout; however these modifications were clarifying interfaces more than changing core functionality of each CSCI.
Impact: We expect smoother implementation of Build 2 capabilities, and fewer than usual requirements changes from here on out.
Corrective Action: None

Sample Project Status Review *6/4/2007* *page 2*

Samples: Requirements Volatility

Requirements Volatility



	Jul 2005	Aug 2005	Sep 2005	Oct 2005	Nov 2005	Dec 2005	Jan 2006	Feb 2006	Mar 2006	Apr 2006	May 2006	Jun 2006	Jul 2006	Aug 2006	Sep 2006	Oct 2006	Nov 2006	Dec 2006
Reqmt Modifications	28	39	49	60	65	72	152	158	169	175	194	195	207	211	212	212		
Reqmt Deletions	0	3	4	5	6	6	20	21	22	22	23	25	29	30	30	30		
Reqmt Additions	5	13	15	18	26	30	46	47	49	52	52	52	53	54	54	55		

Analysis: Requirements have stabilized; only 1 additional requirement was added since last month.
Impact: None.
Corrective Action: None needed.

Sample Project Status Review *6/4/2007* *page 2*

RFA Status

Review	Date	RFAs Opened	RFAs Resolved	RFAs Closed	Avg Days to Close
SRR	11/08/05	35	35	35	147
PDR	05/15/06	28	22	3	250
CDR	04/17/07				

Analysis: Too many PDR RFAs remain open at this point.
Impact: Date of the CDR may be impacted if the PDR RFAs are not closed next month.
Corrective Action: Schedule weekly meetings with one or more RFA submitters to achieve closure.

Sample Project Status Review *6/4/2007* *page 2*

Sample: Review Actions

Sample: Inspection Summary

Subsystem 1 Inspection Measures

# Planned Meetings	5
# Actual Meetings	4

Item Inspected	Author	Review Date	Total Effort	Meeting Length	Number Attendees	Defects: Number Found	Defects: Number Corrected	Defects: Number Deferred	Inspection Type	Action Items: Open Actions	Action Items: Closed Actions
ABC Design	Sally	01/03/06	5.00	3.00	6	22	22	0	Unit Design	7	7
DEF Requirements	Sue	01/24/06	14.00	2.25	11	25	21	4	Requirements	17	17
GHI Design	Mike	02/01/06	32.91	2.00	6	14	12	2	Unit Design	9	9
DEF Design	Sue	02/10/06	17.50	2.00	7	19	19	0	Unit Design	12	10
DLS Design	Mike	02/15/06	6.50	2.25	8	8	8	0	Unit Design	23	18
DLS Code	Mike	02/27/06	2.75	2.50	6	24	6	18	Unit Code	21	21
ABC Code	Sally	02/28/06	4.30	2.50	8	16	10	6	Unit Code	19	5
LMN Requirements	Jane	03/01/06	23.50	2.50	12	34	19	15	Requirements	34	19
DEF Code	Harry	03/15/06	15.00	3.00	5	3	3	0	Unit Code	6	5
XYZ Requirements	Harry	03/17/06	1.25	2.00	4	7	7	0	Requirements	26	26
LMN Design	Jane	03/22/06	1.50	1.50	4	11	7	4	Unit Design	8	3
XYZ Design	Harry	03/28/06	6.25	2.00	6	19	17	2	Unit Design	10	0

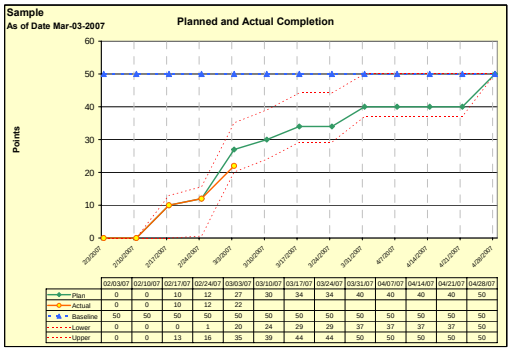
Analysis: Inspections are progressing as planned, except one planned for this month was postponed until next month due to Harry's unplanned leave.
Impact: None.
Corrective Action: Reassign personnel to Harry's work if he doesn't return this week.

Sample Project Status Review *6/4/2007* *page 2*

Measurement Summary Slides (Implementation / Testing)

Example Slides

Build 1 Development Progress



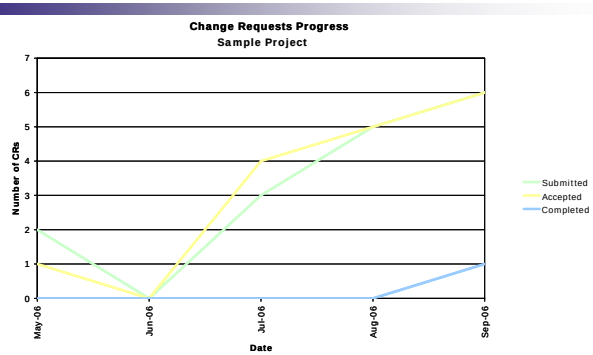
	02/03/07	02/10/07	02/17/07	02/24/07	03/03/07	03/10/07	03/17/07	03/24/07	03/31/07	04/07/07	04/14/07	04/21/07	04/28/07
Plan	0	0	10	12	27	30	34	34	40	40	40	40	50
Actual	0	0	10	12	22								
Baseline	50	50	50	50	50	50	50	50	50	50	50	50	50
Lower	0	0	0	1	20	24	29	29	37	37	37	37	50
Upper	0	0	13	16	35	39	44	44	50	50	50	50	50

Analysis: Build 1 development in progress but beginning to fall behind schedule.
Impact: Build 1 delivery schedule may be impacted by one week.
Corrective Action: Watch the trend in the next two weeks. Consider adding expertise if necessary.

Sample: Point Counting

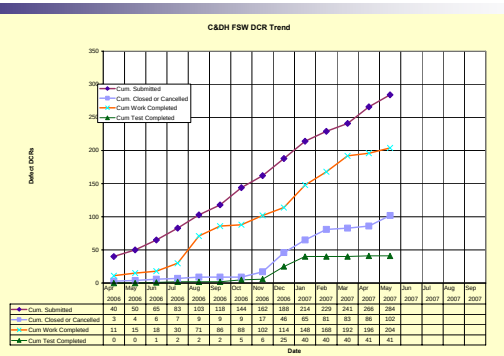
Sample: Change Requests

Change Requests Progress



Analysis: Several new change requests were submitted at the SRR. All have been accepted.
Impact: None
Corrective Action: None

Build 2 Problem Reports Trend



	Apr 2006	May 2006	Jun 2006	Jul 2006	Aug 2006	Sep 2006	Oct 2006	Nov 2006	Dec 2006	Jan 2007	Feb 2007	Mar 2007	Apr 2007	May 2007	Jun 2007	Jul 2007	Aug 2007	Sep 2007
Cum. Submitted	40	50	65	83	103	118	144	162	188	214	229	241	265	284				
Cum. Closed or Cancelled	3	4	6	7	9	9	17	46	65	81	83	86	102					
Cum Work Completed	11	15	18	30	71	86	88	102	114	148	168	192	196	204				
Cum Test Completed	0	0	1	2	2	2	5	6	25	40	40	40	41	41				

Analysis: Build 2 problem reports are being repaired at less than a desirable rate.
Impact: Build 2 delivery schedule may be impacted by up to three weeks.
Corrective Action: Reassign personnel from Build 3 design efforts to help with problem report repairs.

Sample: Problem Reports

Sample: Defects by Priority

Open Defects By Priority

Subsystem/Build	Open Defects by Priority				
	High	Medium	Low	N/S	Total Open
Subsytem 1					
Build 1	0	0	0	0	0
Build 2	13	37	34	2	86
Build 3	0	0	0	0	0
Subsystem 2					
Build 1	0	3	2	1	6
Build 2	0	2	0	1	3
Build 3	0	0	0	0	0
Not Specified					
	2	0	1	1	4
Totals	15	42	37	5	99

Analysis: The 15 high priority defects are being worked, however, 2 of them require additional information.
Impact: None at this time.
Corrective Action: The system engineer will be consulted to assist in resolving the 2 defects requiring additional information.

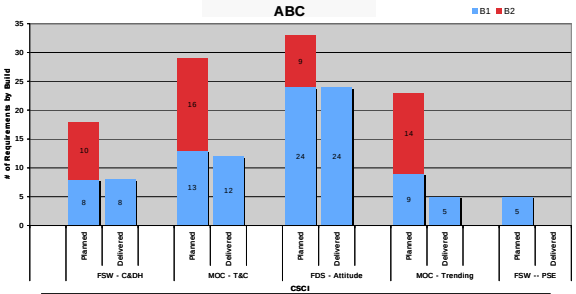
Measurement Summary Slides (Delivery)

Example Slides

GSFC

Delivered Functionality

Planned vs. Delivered Functionality as of 8/1/2006



Analysis: All planned capabilities were in FSW & FDS deliveries, however some MOC build 1 requirements were deferred due to a key team member being putted off to work requirements and interface issues.
Impact: At worst, the project cost overrun will be 10%. However, we believe we have created an exceptional set of requirements, and that we will make Build 2 deliveries on time and within budget.
Corrective Action: We will watch this issue as a cost and schedule risk, and identify low priority requirements that can be deferred to a later build to allow Spacecraft I & T to occur on schedule.

Sample Project Status Review 6/4/2007 *page 2*

Samples: Functionality

Delivered Functionality

Build Designation	FSW - C&DH		MOC - T&C		FDS - Attitude		MOC - Trending		FSW -- PSE	
	Planned	Delivered	Planned	Delivered	Planned	Delivered	Planned	Delivered	Planned	Delivered
B1	8	8	13	12	24	24	9	5	5	
B2	10		16		9		14			
Totals:	18	8	29	12	33	24	23	5	5	0

Analysis: MOC Trending system requirements were moved to Build 2.
Impact: No impact to end-to-end testing is expected.
Corrective Action: None

Sample Project Status Review 6/4/2007 *page 2*

Risks

Instructions

GSFC

- Provide a summary of each risk and a risk matrix
- If there are Red risks, provide additional slide(s) with details on these risks
- Minimum Requirements:
  - Slide(s) must address your project's risks and must address at least all Red risks
  - Risk Summary Slide must include at least:
    - Risk Matrix (i.e., the NASA Risk Cube)
    - Clear, concise statement of each risk
    - Date each risk was last reviewed and/or updated
    - Summary of status on each risk (e.g., rank, trend, exposure, person to which risk is assigned, time period risk may become a problem, current state (i.e., research, accept, watch, mitigate, retired)
  - Risk Details Slide must include the above and at least:
    - Source and Category of the risk
    - Mitigation steps
- Preferred method of presentation:
  - Reports from the Risk Management Tool (http://software.gsfc.nasa.gov/tools.cfm), however, any format that can fully describe the required items is acceptable

Risk Summary

Example Slide

GSFC

Project: Sample

Report Date: 08/01/06

Trend
I = Improving
W = Worsening
U = Unchanged
N = New

Probability \ Impact	VL	L	M	H	VH
VH	0	0	0	1	0
H	0	0	0	0	0
M	0	1	0	0	0
L	0	2	0	0	0
VL	0	0	0	0	0

Exposure	New	Modified	Retired	Open
R	0	1	0	1
Y	0	0	0	1
G	1	0	0	2
Totals	1	1	0	4

Risk ID	Rank	Trend	Risk Title	Assigned To	Exposure	Timeframe	State	Identified	Reviewed
1	1	W	My First Risk	Bob	R	1-3 mo	Mitigate	05/18/06	07/30/06
2	3	U	My Second Risk	Mike	G	1-3 mo	Research	05/18/06	07/30/06
3	2	I	A Third Risk	Dave	Y	1-3 mo	Watch	06/15/06	07/15/06
4	4	N	And a 4th Risk	Donna	G	> 3 mo	Research	07/15/06	07/15/06

This example uses the format in the Risk Management Tool (http://software.gsfc.nasa.gov/tools.cfm), however, any format that can fully describe the required items is acceptable.

Risk Details

Example Slide

GSFC

Project: Sample

Report Date: 07/01/06

Risk ID:	1	**My First Risk**	**State:**	Mitigate
Identified:	05/18/06	**R**	**Rank:**	1
Originator:	Jane	**(Exposure (calculated)) ▲**	**Source:**	Tech
Assigned To:	Bob		**Category:**	Technical
Probability:	Very High		**Visibility:**	External
Impact:	High	**Trend ▼**	**Reviewed:**	07/30/06
Timeframe:	1-3 mo	**Worsening**	**Modified:**	07/30/06

Condition: Because of the complexity of the varied instrument interfaces to be accomodated

Consequence: The team could miss some specific interface details, causing problems during interface testing.

Context: The mission includes three instruments and one tech demo experiment. Because each instrument has heritage, there are seven unique interface protocols to deal with in the xyz software. While each protocol is fairly simple by itself, considered all together, the combination is very complicated.

Status:

July 2006 - All ICDs were approved.
June 2006 - The Instrument Manager code is being prototyped in Build 2. Interface tests with instrument breadboards/ETUs will begin in September.

Assigned To	Step Number	Mitigation Step Description / Status	Planned	Actual
<name>	1	Description of Step 1	<date>	<date>
<name>	2	Description of Step 2	<date>	<date>
<name>	3	Description of Step 3	<date>	<date>
<name>	4	Description of Step 4	<date>	<date>

This example uses the format in the Risk Management Tool (http://software.gsfc.nasa.gov/tools.cfm), however, any format that can fully describe the required items is acceptable.

Issues

Instructions

GSFC

- **Provide a brief description of each issue for the purposes of:**
  - **Bringing them to management's attention**
  - **Obtaining management direction**
  - **Soliciting management's assistance in resolving**
- **Minimum Requirements:**
  - **Slide(s) must address the project's technical, management, and/or process issues and must include at least:**
    - **Issue: Clear, concise statement of the problem or concern**
    - **Analysis: An analysis of the issue including specific internal and external groups/personnel that may be affected or need to be involved in resolving the issue**
    - **Impact: Specific, quantifiable impact(s) on your project**
    - **Action Plan: Action(s) that are planned and dates the actions are to be completed**
    - **Status: Current progress against the action plan including actual completion date(s)**
- **Preferred method of presentation:**
  - **Use any format that can fully describe the required items**

Issues

Example Slide

GSFC

Sample Project Issues Log **As of: 09/1[illegible]06**

Issue	Analysis / Impact	Action Plan	Status
CM procedures document has been stalled for months	An early draft of this document was written, but no progress on it has been accomplished in the last few months. **Impact:** Teams will be unable to consistently and correctly apply CM procedures without this document.	PDL will ask the Branch for some of Suzie's time to finish this document. Action Due Date: 10/01/06	09/06: New issue this month.
Hard Disk Recorder Implementation: New architecture makes old SRR requirements obsolete.	SW from three groups (GSFC, BAE, GD) has to interface to make this system work. **Impact:** Detailed Reqts must go into the new contract SOW.	Convince project to delay the SOW until SW requirements can be refined.	09/06: SOW has been released with high-level SW requirements. Development of detailed Reqts Doc is part of the contract. This issue can be closed. 08/06: New issue this month.
Subsystem 1 Development Team is understaffed.	Staff-up of Subsystem 1 has not been accomplished as planned. Will need to staff with very experienced personnel to minimize impact. **Impact:** Planned Build 1 contents or schedule are in jeopardy	Work with Branch management to identify experienced personnel. Action Due Date: 08/01/06	08/06: Davey Jones joined the team this month. This issue is now closed. 07/06: Created new plan. Build 1 date has not slipped; however the contents of the build have been adjusted. Issue will remain open until staff is added.

This example uses the format in the Issues Tracking Tool (http://software.gsfc.nasa.gov/tools.cfm), however, any format that can fully describe the required items is acceptable.

NEW CHART: Areas for Improvement

Instructions

GSFC

- Provide a "Stop-Light Chart" that shows the status of processes deployed on the project
  - Note if available staff is adequate to implement the process
  - Note if process is efficient or needs improvement
  - Comment column must contain input for any red indicators
  - Comment column input for is suggested for any yellow indicators
- Use the data from the staffing tool (where available) to help identify staffing issues

Areas for Improvement
Process Monitoring Chart (DRAFT)

Example Slide

GSFC

Processes	Sufficient Staff?	Process Efficiency	Comments / Improvement Suggestions (Date each entry; Entry is required when RED)
Management			
Project Planning	🟢	🟡	12/1/07 Too much time spend on reviews and approvals
Project Monitoring & Control	🟡	🟢	
Measurement & Analysis	🟢	🟢	
Risk Management	🔴	🟡	12/1/07 See Issue #7
Acquisition Management	🟢	🟢	
Configuration Management	🟡	🟡	12/5/07 CM audits take a lot of effort – See Issue #13
Process & Product QA	🟡	🟡	12/5/07 Audits are always late and after the fact
Engineering			
Systems Engineering	🟡	🟢	
Dev & Test Env Engineering	🟡	🟡	12/4/07 Latest env. decisions and impl. will overload avail staff
Requirements Development	🟢	🔴	12/5/07 Tailored peer review process takes too long
Requirements Management	🔴	🟢	12/6/07 No staff to maint. tool. Takes too long get Reqs. updated
Development	🟢	🟢	
Verification & Validation	🟢	🔴	12/5/07 Status tracking duplicative and taking to long

🟢 No issues 🟡 Small impact, inefficient process 🔴 Insufficient staff, process bottlenecks, or unnecessary work being performed

Monitoring Summary

Instructions

GSFC

- **Provide a summary of monitoring activities**
- **Minimum Requirements:**
  - **Slide must show the date the following were last monitored:**
    - **Team Training**
      - Monitoring of planned vs actual team training is required at least quarterly
    - **Commitments**
      - Monitoring of planned vs actual commitments (i.e., deliverables, receivables, and services) is required at least monthly
    - **Data Management**
      - Monitoring of items on the Data Management List is required at least quarterly, with every item checked at least once per year
    - **Stakeholder Involvement**
      - Monitoring of planned vs actual stakeholder involvement is required at least monthly
    - **Risks**
      - Monitoring of risks is required at least monthly
- **Preferred method of presentation:**
  - **Use any format that can fully describe the required items**

Monitoring Summary
(Likely to Change)

Example Slide

GSFC

- **Risks**
  - Risks were last updated on December 18 as shown on previous slides.
- **Team Training**
  - Training records were reviewed on December 15 and updated to reflect technical training per comments received in the CMMI appraisal.
- **Commitments**
  - The commitment list was last reviewed on December 20. There were no updates needed.
- **Data Management**
  - The DML was last monitored on December 22and updates were made as necessary to reflect current status and to address comments received in the CMMI appraisal.
- **Stakeholder Involvement**
  - The Stakeholder Table was last monitored on December 20 and updates were made as necessary to reflect current status and to address comments received in the CMMI appraisal.

After You Create Your BSR …

- Keep all important artifacts stored in an information repository
  - All presentation packages for status reviews
  - Minutes, attendance, action items from reviews
- Artifacts may be kept by you or by the Branch Head
  - Coordinate so you know who is keeping the records
  - Document the location of BSR artifacts so everyone can find them
    - Suggestion: use the Data Management List tool that will be discussed in a future Engineering Discussion

Summary

- Regular status reviews are required by NPR 7150.2
- For projects doing Class B software, status reviews must be CMMI compliant
- The SPI template describes all necessary charts for a CMMI-compliant BSR
- The SPI template is available at:

  http://software.gsfc.nasa.gov/AssetsApproved/PA1.4.3.4.ppt
- You need to keep the slides, minutes, attendance, and action items from every BSR

  … and track the action items to closure!

Questions?